## QUIZ 5 - MATH 152 Your Name:

Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Please read directions carefully: Consider the functions

$$f(x) = \frac{1}{2}x$$
 and  $g(x) = -\frac{1}{8}x^3 + \frac{3}{4}x^2 - \frac{1}{2}x$ 

Suppose you had to evaluate the area of the region bounded by these two curves.

(a) Find the limits of integration that you would have to use.

(b) Set up carefully the integration formula that gives the area of this region. Explain. (You do not need to actually perform the integration.)

2. Find the volume of the solid of revolution resulting from revolving the area bounded by  $y = 2 - x^2$ , x = 0 and y = 0 around the y-axis.